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ABSTRACT

Continuing training--"staff development" or "inservice education"--now seems integral to improving the quality of teaching and administration in our schools. Hard evidence of the effectiveness of staff is generally lacking. This paper offers profiles which include a short description, advantages and disadvantages, unknown elements, and costs, of six successful staff development programs in different parts of the country. The programs include: (1) Professional Growth for Teachers Benefits Students (Rochester, New York); (2) Teacher Retraining in a Context of Financial Incentives (Houston, Texas); (3) Comprehensive Professional Development (Montgomery County, Maryland, Jefferson County, Colorado; and Lincoln, Nebraska); (4) Career Ladder for Teachers (Charlotte-Mecklenburg, North Carolina); (5) Multiple Approaches to Relieving Shortages of Science and Mathematics Teachers (Los Angeles, California); and (6) Staff Developemnt Through Research: Interactive Research and Development on Teaching (California and Vermont). (JMK)

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# STAFF DEVELOPMENT

by

Michael Kane and Cheryl Chase

July 1983

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## INTRODUCTION

Staff development provides exciting opportunities for business, industry and education to share efforts. State and local leaders are urged to review current staff development practices, and to explore new approaches to inservice training by:

- Reviewing current uses of inservice training funds, release time, and substitute-teacher funds
- Requiring relevant, year-round inservice programs for all teachers
- Providing systematic inservice training for professional staff
- Establishing a "Scholars Program" to encourage outstanding teachers to take graduate courses, work in business or conduct research
- Establishing summer institutes where teachers can expand their knowledge of mathematics, science and computer literacy
- Providing incentives for teachers to retrain in high-demand fields such as mathematics and science

Ideas about how to improve staff development programs are plentiful. Less plentiful and more difficult to find is information about how some of the ideas actually work -- day by day in specific local situations. For this reason, we have complied profiles of programs now operating successfully in various cities and school districts, describing their general features and citing advantages, disadvantages, unknowns and costs.

First, though, we discuss the context of these and other programs, describing the historical background of staff development and current needs for new and better development, summarizing the results of recent research and outlining criteria to evaluate current or proposed staff development activities.

## 1. BACKGROUND

Continuing training -- "staff development" or "inservice education" -- now seems integral to improving the quality of teaching and administration in our schools. During the first half of the century formal staff development was relatively rare, since most teaching focused on the basic skills, and little was known about the teaching process. As the range of skills taught grew broader and more was learned about educational processes, staff development became commonplace. Now most school systems offer

staff development programs which are developed, by themselves, higher education institutions, or private consultants. Teachers are required to participate, or are rewarded for participating through the salary structure. Despite the pervasiveness of staff development, many current practices would benefit from review and refinement.

## 2. CURRENT NEEDS

Between 1950 and 1970, the demand for teachers far outstripped the supply. While issues of quality were present, issues of quantity demanded more attention as the number of public school teachers more than doubled, growing from about 900,000 to more than 2,000,000. By 1979, the rate of growth had declined to less than 7% (150,000 new teachers). Accompanying this decline has been visible focus on quality, as well as a shift in where quality is addressed. In 1969 more than 10% of all teachers were first-year teachers and issues of quality were addressed in pre-service settings. Now that new teachers make up less than 5% of the teaching force each year, quality must be addressed through in-service education.

Since the 1920s, research has documented that people who enter teaching demonstrate less academic ability than other college graduates. Furthermore, those who stay in teaching generally have less academic ability than those who leave. Were academic ability unrelated to teaching success this would not be important but it appears to be related. A consistent, little-publicized finding of several major research studies of the 1960s and 1970s notes a positive association between teachers' verbal ability and the academic performance of their students. Academically able teachers produce academically able students. Since few new teachers now enter the profession each year, retaining academically able teachers has become especially important. Unfortunately, able teachers continue to leave teaching. Some observers blame the structure of the profession, citing the lack of challenging and differentiated opportunities within teaching. Good staff development programs like those described later in this paper offer significant challenges and opportunities, which makes them essential to retaining good teachers.

## 3. RECENT RESEARCH

Recent research provides a detailed description of teaching, paints a reasonably complete picture of teachers, and indicates the importance of staff development. Unfortunately, the research

directed at staff development itself has been limited, although some images are emerging.

Generally, more resources are devoted to staff development than school administrators recognize. A study of three urban school districts reporting high, medium and low levels of staff development demonstrated that the total costs of these activities ranged from $1,000 to $1,700 per teacher per year, 50 to 60 times more than the district estimated. If nationally expenditures ran $1,000 per teacher per year, total costs of staff development would be $2 billion. Currently, $950 million is spent annually on textbooks in all public and private schools.

Research indicates that staff development is often fragmented. District, state and federal programs are frequently uncoordinated as well as administrative time, teacher time, substitute teacher time, salary increment, course design and delivery. Research indicates that one teacher in every seven has some type of staff development responsibility. Yet no common language, literature or data base ties these 300,000 people to staff improvement. Most teachers perform this role on a part-time basis, have other responsibilities and lack specialized training.

Although the financial and human resources devoted to staff development are considerable, participation in staff development is 4-5 days per year. Surveys indicate most teachers hold current staff development activities in less than high regard.

Hard evidence of the effectiveness of staff development is generally lacking. Some experimental studies have demonstrated that specific inservice activities change teacher behavior and increase student learning in some basic skills. Appropriately designed and delivered staff development can improve outcomes. Unfortunately, many problems remain: most staff developers have little training, few advanced professional training courses are available from higher education institutions, and characteristics of effective staff developers have not been determined.

The consensus is that staff development fails to meet the needs of participants. Several factors seem responsible, in addition to the lack of coordination already noted: (1) teachers have not been involved in planning or providing training; (2) the process of staff development seems to have little knowledge of adult learning; (3) programs frequently ignore recent research on effective teaching; and (4) staff development opportunities are rarely based on the performance problems of individual teachers.

## 4. CRITERIA FOR EVALUATING TRAINING OPPORTUNITIES

Although relatively little is known about which types of training are most effective, thoughtful students of the field have offered some prescriptions for successful programs (see selected references). While this body of work is clearly not definitive, it does provide a basis for reviewing current programs. Becoming familiar with recent research is the first step a school district or state should take to improve staff development. Districts and states may wish to use the following criteria to evaluate current and proposed staff development activities:

- Integration. Are present staff development activities systematically coordinated to maximize the impact of the resources expended? Is a proposed activity another "add on," rather than integrated into present activities?

- Participation. Are participants passive recipients, or are they actively engaged in planning and delivery?

- Activities. Are activities based on a clearly demonstrated need? Is the content of the training programs consistent with recent findings about effective teaching. Is it designed to remedy identified deficiencies? If not, what is the rationale for the activities?

Other criteria concern the process of staff development. For example, is the process consistent with what we know about how adults learn? Does it appropriately reflect the context in which it occurs or, perhaps more important, the context in which the content is implemented?

## 5. PROGRAM PROFILES

### Professional Growth for Teachers Benefits Students: Rochester*

Industry in Rochester, New York, originated and funded the Program for Rochester to Interest Students in Science and Math (PRIS2M). (Forty percent of the workforce in Rochester is employed by industries based on technological products and services.) The

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*This summary was prepared from a presentation made by Douglas Seagar, Curriculum Coordinator, Industrial Management Council of Rochester, New York, at the "Conference on Teacher Shortages in Science and Mathematics: Myths, Realities and Research" sponsored by the Teaching Instruction Division of the Teaching and Learning Program, National Institute of Education. Contact: John Taylor.

program hopes to increase the number of minority students qualified to enter engineering schools. In the past few years, as a result of PRIS2M, more students, of predominantly minority schools, are taking chemistry and physics, and enrollments of Rochester students in engineering are on the rise. Through PRIS2M, industry has funded teams of teachers to write supplemental science and mathematics curriculum materials, arranged science-related field trips, provided role models from among its technical and professional staff, and given eight-week summer internships, to selected students. PRIS2M also works to make parents and members of the community aware of the need to prepare students for life in a technological environment.

PRIS2M supports the retraining of teachers in the Rochester City School District using curriculum development as an inservice training tool. Teachers review research on science education and work with consultants to develop supplemental curriculum materials. They become principal authors of science units and conduct inservice training sessions for the other teachers who field test the materials. They convey information about current research and new units to other teachers.

PRIS2M further supports professional development by requiring teachers to explore a topic of scientific interest. Teachers receive small grants for special equipment, materials and meet with research scientists in industry.

## Advantages and Disadvantages

A major advantage is that industry actively and directly supports the education of students. By identifying skills students need to enter corporations and allowing them to work closely with support. Although the program appears to be working in Rochester, with less local commitment could be difficult.

PRIS2M focuses on increasing the number of minority students who can enter college engineering programs. Companies that support PRIS2M encourage their personnel, especially minorities, to participate. It seems reasonable to expect that this approach would work for nonminority populations as well, however, no data is available.

## Costs

PRIS2M is funded entirely by 26 local industries. The project receives approximately $200,000 per year; half is used for activities directly affecting students and half supports two professional staff, office space, dues and benefits.

Contacts

Dr. Laval Wilson, Superintendent
Rochester City School District

John F. Schickler
Rochester Products Division
General Motors Corporation
Chairman of the Board of PRIS2M

Donald R. Barry, Executive Director
The Industrial Management Council of
Rochester, New York

## Teacher Retraining in a Context of Financial Incentives: Houston*

In the fall of 1978, the Houston Independent School District faced a critical shortage of teachers in science, mathematics, special education and bilingual education. Six thousand students were without certified science and mathematics teachers; 47 high school teaching positions were vacant.

Houston successfully responded to the crisis by implementing an incentive pay plan and a school-based retraining program. The incentive pay plan rewarded teachers who:

1. Contributed to the outstanding educational progress of students ($800 per year per teacher in schools where achievement scores exceeded predictions)

2. Taught critical subjects ($600 - $1,000 per year per teacher)

3. Taught in schools with high concentrations of educationally disadvantaged students ($2,000 per year per teacher).

4. Maintained outstanding attendance

5. Participated in professional growth activities ($300 for a 6-hour college course or 72 hours district inservice)

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*This summary was prepared from a presentation by Patricia Shell, Assistant Superintendent for Instruction, Houston Independent School System, at the "Conference on Teacher Shortages in Science and Mathematics: Myths, Realities and Research" sponsored by the Teaching and Instruction Division of the Teaching and Learning Program, National Institute of Education.

6. Accepted a unique campus assignment

Houston's school-based retraining program, "Project Search," recruits teachers into professional development leading to certification in science and mathematics. Target groups are elementary school teachers with some college credits in mathematics and science who are interested in teaching these subjects in middle school or junior high school and middle and junior high school teachers interested in teaching science or mathematics in high school. Once teachers enter the program, the school district pays for tuition and books; they receive a $250 stipend per course if they earn grades of "A" or "B." Participating teachers agree to serve in the district for three years.

Three hundred teachers applied for the program, which could accommodate only 50. Applicants were screened by academic record, evaluations and principal recommendations. Thirty-four teachers were placed in science and mathematics classrooms after the first training cycle.

## Advantages and Disadvantages

The program has worked effectively in Houston: districtwide vacancies in science, mathematics, special education and bilingual education decreased from 195 in 1979 to 30 in 1982. Staff turnover was reduced by 6.8%; teacher absence decreased by 30%.

The business community supported this approach to solving the teacher shortage problem, but teacher organizations opposed it. Teacher unions advocated across-the-board increases for all teachers rather than incentives tied to performance in high-priority areas.

## Unknowns

It is unclear whether teachers with intensive, short-term preparation in a subject perform as well as those who complete traditional, long-term courses of study. It is also unclear how teachers receiving bonuses for training in new areas will react if district priorities change and bonuses are lost.

## Cost

The incentive program cost the district approximately $17 million in bonuses over a three-year period. Some teachers are earning as much as $3,000 a year more than they earned before the program was implemented. Project Search, which eventually retrained 34 teachers, cost $68,500.

## Comprehensive Professional Development: Montgomery County, Maryland; Jefferson County, Colorado; Lincoln, Nebraska

The Montgomery County, Jefferson County and Lincoln public school systems all operate comprehensive and systematic staff development programs. The programs support long-range professional growth rather than crisis intervention. The focus on continuous development requires thoughtful specification of skills and knowledge.

In Montgomery County, analysis of pupil test scores, self-report inventories and observations of performance is the basis of goals established for the district, schools, teachers, administrators and support staff. Programs are created leading to these goals. One such program, the Teacher Competency Program, provides sequential training in specific skills.

The Jefferson County program is designed not only to improve performance but also to increase job satisfaction and to support role changes. Continuing development is viewed as essential for all educators, particularly principals. Through the Jefferson County Staff Development Academy, a staff development team observes teachers, analyzes strengths and weaknesses, and supports moves into new growth areas.

In Lincoln, staff development is tied closely to the instructional program and is continually assessed in light of staff ability to meet goals for student achievement.

All three school districts provide opportunities for teachers to help other teachers excel. Lincoln created a Helping Teaching cadre of highly qualified teachers who are released from some of their classroom responsibilities to work with other teachers. Highly qualified teachers in Montgomery County develop model video-tapes to train other teachers and serve as instructors in the training program. Jefferson County sponsors a personnel resource bank that supports the sharing of expertise.

### Advantages and Disadvantages

Advantages of these comprehensive approaches include:

1. Close ties to student performance
2. Involvement of staff in planning and delivery
3. A long-range focus

It is difficult to identify disadvantages, given our current understanding of effective staff development. These programs

appear to incorporate the elements critical to professional growth.

Unknowns

These programs operate in large urban school districts, which may have more resources to plan and implement coordinated programs then smaller districts.

Cost

Although we have no information on the costs of these specific programs, it seems reasonable to assume that integrating comprehensive programs may cost no more than supporting a variety of scattered programs.

## Career Ladder for Teachers: Charlotte-Mecklenburg*

In July 1981, Superintendent of Schools Jay Robinson appointed a committee to study merit pay for the Charlotte-Mecklenburg School District in North Carolina. After careful analysis, the committee rejected merit pay as a means to improve the quality of education and recommended further planning to create a comprehensive system of incentives and teacher evaluation. Robinson then asked the committee to develop such a system. The result was a plan that sees teaching as stages of development and recognizes that different types of professional development are appropriate at different stages. Specific stages include:

1. Provisional teachers: generally in their first year of employment in the school district and supervised closely

2. Career nominees: employed at least one year, recommended for nominee status, and have career teachers as mentors

3. Career candidates: career nominees for one year and recommended for advancement

4. Professional internships: work with teachers and administrators on improvement activities

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*Summarized from "Staff Development News," a publication of the Curriculum/Staff Development Department, Charlotte-Mecklenburg Schools, Volume VII, No. 3, November 1982.

5. Career teachers: progressed through previous stages and eligible for substantial salary increases

Advantages and Disadvantages

This approach defines stages in the professional development of teachers and provides a broad framework for effective professional development at each stage. It is flexible, since school districts can use local resources to develop a variety of staff development options. Further advantages are that teachers progressing through this system see themselves becoming more skilled and respected, and their teaching experience is dynamic rather than static.

At this early stage, identifying disadvantages is difficult. Problems may occur if career teachers do not have time to be mentors. In addition, the plan will undoubtedly be handicapped if relevant professional development is not provided at each stage.

Unknowns

It is unclear whether teachers and teacher unions support the plan. In some states, policies and laws may require modification to accommodate the plan.

Costs

The plan proposes salaries for teachers that are equivalent to salaries paid to middle management in technological fields. More effective and extensive staff development activities may also increase costs.

## Multiple Approaches to Relieving Shortages of Science and Mathematics Teachers: Los Angeles*

In 1982, the California legislature funded "Investment in People," a program administered through the Los Angeles County schools. The program funds proposals by schools to provide staff

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*This summary was prepared from a presentation made by Rosalyn Heyman, Assistant Superintendent of Secondary Education, Los Angeles Unified School District, at the "Conference on Teacher Shortages in Mathematics and Science: Myths, Realities and Research" sponsored by the Teaching and Instruction Division of the Teaching and Learning Program, National Institute of Education. Contact John Taylor.

development in mathematics, science and computer technology. It also funds proposals by universities and colleges to train science and mathematics in grades 7-12.

Another facet of Investment in People is an internship training program for mathematics teachers sponsored by the county school system and the University of California at Los Angeles. Teachers who participate combine university courses with a three-week workshop offered by the district's mathematics specialists. (The project pays tuition for the courses, workshop, covers major expenses for books and parking.) Each semester, trainees take one university course and a practicum with more courses in the following summer. During the school year, the school district provides a resource teacher who works with trainees individually and in groups. Twelve of the 41 teachers who originally enrolled in the program have dropped out, largely due to the difficulty of mathematics courses at the university.

Other promising possibilities have been proposed by the "Partnership for Development of a National Engineering Resources Project," a group of military and industry leaders. This group is considering such actions as:

1. Encouraging teachers to visit industries or observe other outstanding teaching

2. Providing funds to retrain mathematics teachers

3. Granting sabbatical leave to engineers and mathematicians in industry and the military to teach in public schools

4. Encouraging sabbatical leave for teachers to work in industry

Advantages and Disadvantages

The efforts of Los Angeles Unified School District is to cooperate with other agencies to train science and mathematics teachers are so new, that identifying advantages and disadvantages is difficult.

Unknowns

The impact of this multi-faceted approach is yet unknown.

Costs

No information is presently available.

## Staff Development Through Research: Interactive Research and Development on Teaching

Although the Interactive Research and Development on Teaching (IR&DT) process was not designed specifically as a staff development strategy, it has nonetheless proved effective for development, a worthy alternative to workshops and other more conventional approaches. Teams of teachers, researchers and trainer/developers collaborate to find solutions to problems faced by classroom teachers. As the teams conduct research for methods and findings, they also develop training.

Under the sponsorship of the National Institute of Education, the Far West Educational Laboratory implemented and evaluated the IR&DT process in eight classrooms in San Diego Unified School District (a large urban public school) and in nine classrooms in the Underhill Independent School District (rural Vermont).

### Advantages and Disadvantages

The California and Vermont experiments, which demonstrated the value of IR&DT as a strategy for involving teachers in research and development areas, also indicated that participants' experience with R&D affects results. Researchers in California had highly developed R&D skills and characterized their IR&DT efforts as highly rigorous and useful. Participants in Vermont had less experience with R&D, implemented the IR&DT strategy and showed great professional growth and brought about institutional change. If professional growth is the goal, IR&DT is likely to have greater impact on participants relatively unfamiliar with R&D.

### Unknowns

Since the IR&DT study was limited to two sites and follow-up data are not available, conclusions about the permanance of change in schools undergoing this process cannot be made. Also, since systematic research and development does not occur in most schools, it is unclear whether teachers will value the process enough to learn how to use R&D to solve problems.

### Costs

The total cost in California was $99,317; the total cost in Vermont was $88,153. IR&DT has been judged cost-effective for R&D. Whether it is also effective for staff development is a function of local needs.

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## HUMAN RESOURCES

Some of the people responsible for developing the creative and effective approaches to continuing professional development described in the paper have already been identified.

For those who need general advice on staff development, we recommend direct contact with the National Institute of Education (NIE). Dr. Joseph Vaughan, head of the Staff Development Research Team, Dr. John Taylor, head of the Improvement of Science and Mathematics Team and Dr. C. Jay Stratoudakis are valuable resources on issues pertaining to the topic of this paper. Gary Sykes, responsible for much of NIE's research on teaching policy, can also provide a broad perspective on national staff development approaches.

More local resources on staff development can be provided by the NIE-sponsored national educational research laboratories. The seven laboratories offer services in most regions of the country. For the address of the nearest laboratory, contact Dr. Thomas Carroll of NIE.